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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,123	04/13/2004	Nianci Han	003330 P01/ETCH/METAL/MD	6448
61285 7590 04/05/2007 JANAH & ASSOCIATES, P.C. 650 DELANCEY STREET, SUITE 106 SAN FRANCISCO, CA 94107			EXAMINER LAVILLA, MICHAEL E	
			ART UNIT 1775	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/05/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/824,123

Applicant(s)

HAN ET AL.

Examiner

Michael La Villa

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 23-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 23-31 and 33-37 is/are rejected.
- 7) ☒ Claim(s) 11 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 35 and 37 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Regarding Claims 35 and 37, it is unclear how these claims are further limiting as the previous claims appear to require the "yttrium containing electrolyte" of Claims 35 and 37 since these previous claims require "electroplating bath comprising a solution of yttrium species."

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:
3. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 35 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Regarding Claims 35 and 37, it is unclear what is meant by the phrase "the electroplating bath comprises a yttrium containing electrolyte." It is unclear whether this phrase means something other than an "electroplating bath comprising a solution of yttrium species." If so, it is unclear what is the nature of the difference.

Claim Rejections - 35 USC § 102/103

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

7. A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

- 1. Determining the scope and contents of the prior art.
- 2. Ascertaining the differences between the prior art and the claims at issue.
- 3. Resolving the level of ordinary skill in the pertinent art.
- 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-4, 6, 23-27, and 34-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Morita et al. USPA 2002/0012791. Morita et al. teaches a YAG coated substrate support used in a processing chamber, wherein the YAG is plasma resistant. See Morita (Abstract; Figure 2; paragraphs 1, 2, 4, 7, 8, 13-15, 43-45, and 90). While the coating layer of Morita et al. is applied with a sintered composition, electroplated layers could encompass the structural and compositional characteristics of the coating layer of Morita et al., particularly in view of the lack of claimed processing parameters. It is unclear that other structural or compositional features are achieved by the claimed product-by-process limitations that can distinguish over the prior art. As such, the claims encompass structures and compositions that are identical to or substantially identical to those of the prior art, and so rejection is appropriate.
12. Claims 1-4, 7-10, 25-27, and 34-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Murakawa et al. USP 6,447,937. Murakawa et al. teaches a YAG coated substrate support used in a processing chamber, wherein the YAG is plasma resistant. See Murakawa (Abstract; Figure 6; col. 3, line 58 through col. 4, line 13; Table 1; col. 21, line 21 through col. 22, line 5). The window functions as part of the wall of the apparatus. While the coating layer of Murakawa et al. is applied with a sintered composition, electroplated layers could encompass the structural and compositional characteristics of the coating layer of Murakawa et al.,

particularly in view of the lack of claimed processing parameters. It is unclear that other structural or compositional features are achieved by the claimed product-by-process limitations that can distinguish over the prior art. As such, the claims encompass structures and compositions that are identical to or substantially identical to those of the prior art, and so rejection is appropriate.

13. Claims 1, 2, 7, 8, and 34-37 are rejected under 35 U.S.C. 102(a and e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over O'Donnell et al. USPA 2004/0002221. O'Donnell et al. teaches coating a process chamber component with yttria. See O'Donnell et al. (paragraphs 27-32, 44, 45, and 68-78). While the coating layer of O'Donnell et al. is applied by thermal spraying, electroplated layers could encompass the structural and compositional characteristics of the coating layer of O'Donnell et al., particularly in view of the lack of claimed processing parameters. It is unclear that other structural or compositional features are achieved by the claimed product-by-process limitations that can distinguish over the prior art. As such, the claims encompass structures and compositions that are identical to or substantially identical to those of the prior art, and so rejection is appropriate.

14. Claims 1-5, 25-31, and 33-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Takeuchi et al. JP 11-229142. Takeuchi et al. teaches forming a YSZ coating layer by electrochemical methods on a reaction chamber surface. See Takeuchi et al. (Abstract; Claims 1 and 2; and paragraphs 8, 37-41). It is unclear that other

structural or compositional features are achieved by the claimed product-by-process limitations that can distinguish over the prior art. As such, the claims encompass structures and compositions that are identical to or substantially identical to those of the prior art, and so rejection is appropriate.

15. Claims 1-4, 7-10, 25-27, and 34-37 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Otsuki USPA 2001/003271. Otsuki teaches a substrate processing chamber, including its components, having a sprayed Y₂O₃ and Al₂O₃ coating on the surfaces thereof. See Otsuki (Abstract; paragraphs 41-46, 62, 65, 66; and Claims 1-27). While the coating layer of Otsuki is applied by spraying, electroplated layers could encompass the structural and compositional characteristics of the coating layers of Otsuki, particularly in view of the lack of claimed processing parameters. It is unclear that other structural or compositional features are achieved by the claimed product-by-process limitations that can distinguish over the prior art. As such, the claims encompass structures and compositions that are identical to or substantially identical to those of the prior art, and so rejection is appropriate.

Claim Rejections - 35 USC § 103

16. Claims 7-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita et al. USPA 2002/0012791. Morita et al. teaches a YAG coated substrate support used in a processing chamber, wherein the YAG is plasma resistant. See Morita (Abstract; Figure 2; paragraphs 1, 2, 4, 7, 8, 13-15, 43-45,

and 90). While the coating layer of Morita et al. is applied with a sintered composition, electroplated layers could encompass the structural and compositional characteristics of the coating layer of Morita et al., particularly in view of the lack of claimed processing parameters. Morita et al. may not exemplify a processing chamber. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the coated substrates of Morita et al. as processing chambers as Morita et al. teaches they are effective for this purpose. In this configuration, the coated substrate may be deemed to function as a liner or wall of the apparatus. It is unclear that other structural or compositional features are achieved by the claimed product-by-process limitations that can distinguish over the prior art. As such, the claims encompass structures and compositions that are identical to or substantially identical to those of the prior art, and so rejection is appropriate.

Response to Amendment

17. In view of applicant's amendments and arguments, applicant traverses the various prior art rejections of the Office Action mailed on 23 August 2006. Applicant argues that the pending claims have limitations reciting electroplating process parameters that are not taught in the cited prior art. Since the prior art does not teach every claimed limitation, the argument concludes that rejections should be withdrawn. Applicant's argument is not persuasive because applicant's claims are directed to articles, not methods. The product-by-process limitations can only distinguish over the prior art should the resulting composition

and structure necessarily not encompass that of the prior art. Applicant has not demonstrated that the films formed by the claimed product-by-process limitations necessarily result in structures and/or compositions that do not encompass those of the cited prior art. Moreover, the Specification refers to the importance of forming "integral surface coating" which can be achieved by electroplating or by electroplating and annealing and which may be formed by growing the surface coating. Specific conditions are described for achieving this structure, and these are not claimed features. Moreover, the Specification teaches that conventional coatings are disfavored because they result in the formation of a discrete interface. See Specification (page 6, lines 20-26). However, avoidance of such an interface is not claimed. Not all electroplating regimes would be expected to necessarily result in avoidance of discrete interface. It is unclear that other structural or compositional features are achieved by the claimed product-by-process limitations that can distinguish over the prior art. As such, the claims are appropriately presumed to encompass structures and compositions that are identical to or substantially identical to those of the prior art, and so rejection is appropriate.

18. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Takeuchi of the Office Action mailed on 23 August 2006. In addition to the product-by-process limitation argument addressed above, applicant argues that Takeuchi does not teach or suggest a substrate processing component. The LSM tube of Takeuchi is described as being formed

in a substrate processing apparatus, rendering the tube a component thereof.

Rejection is maintained.

Allowable Subject Matter

19. Claims 11 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
21. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.
22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is

(571) 272-1539. The examiner can normally be reached on Monday through Friday.

23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571) 272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Michael La Villa
27 March 2007



MICHAEL E. LAVILLA PH.D.
PRIMARY EXAMINER